Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Review of the Emergency Alert System	)	EB Docket No. 04-296
	)	

To: The Commission

COMMENTS OF CINGULAR WIRELESS LLC

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TABLE OF CONTENTS

SUMMARY

Cingular supports the Commission's efforts to provide a more robust national alert and warning system to the American public – particularly in light of events such as 9/11 and Hurricane Katrina. Additional time is necessary, however, to evaluate whether a wireless emergency alert capability can be effectively deployed for CMRS systems and what technology should be used to provide such a capability. The Commission recently extended its Emergency Alert System ("EAS") rules on certain digital broadcast and cable systems, at least in part because these systems were capable of providing the alerts without substantial modifications. The same cannot be said with respect to CMRS systems.

There remain a number of essential technical and policy issues that must be resolved regarding the viability of imposing an EAS obligation on these systems. Significant technical problems have already been identified with respect to the deployment of the main delivery protocols being considered for EAS warnings via CMRS systems: (1) Short Message Service ("SMS"), a point-to-point delivery system; and (2) cell broadcast, a point-to-multipoint technology. Among other things, both delivery mechanisms would cause significant capacity constraints on CMRS networks.

The wireless industry already has begun examining whether it is feasible for wireless carriers to provide an emergency alert capability to their customers. Adoption of an inflexible mandate at this time may impede this process. Rather than imposing a requirement, the Commission should partner with industry to evaluate the viability of CMRS EAS. Cingular recommends utilizing the wireless priority access service ("WPS") model to form a public-private partnership to explore technical solutions and establish regulatory requirements only if necessary. For WPS, the Commission refused to mandate technical standards since industry groups were already working toward a solution.

Finally, the Commission should limit the liability of CMRS carriers providing EAS alerts and should allow these carriers to recover the costs associated with implementing EAS. There are inherent technological limitations associated with CMRS that prevent licensees from delivering one hundred percent of all calls and messages. CMRS carriers thus cannot be expected to guarantee the delivery of a CMRS EAS warning to every subscriber.

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Cingular Wireless LLC ("Cingular"), in response to the Commission's *Further Notice of Proposed Rulemaking*, hereby submits comments in the above referenced proceeding.[1] Cingular fully supports the Commission's efforts to provide the American public with an effective and robust national alert and warning system by bolstering the current Emergency Alert System ("EAS"). Numerous essential technical and policy issues must be resolved, however, before an EAS requirement is imposed on the wireless industry.

I. THE COMMISSION HAS TAKEN APPROPRIATE ACTION TO ENSURE ACCESS TO AN EFFECTIVE NATIONAL ALERT AND WARNING SYSTEM

As the Commission has stated, "EAS is a national public warning system that, together with other emergency notification mechanisms, is part of an overall public alert and warning system."[2] The FCC, the Federal Emergency Management Agency ("FEMA"), and the National Weather Service ("NWS") implement EAS at the national level. EAS was designed as a vehicle for delivering emergency messages from the President of the United States via radio and

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1 *Review of Emergency Alert System*, EB Docket No. 04-296, *First Report and Order and Further Notice of Proposed Rulemaking*, FCC 05-191 (rel. Nov. 10, 2005) ("*First Report and Order*" or "*Further Notice of Proposed Rulemaking*").

2 *Id.* at ¶ 5.

television broadcast stations and the cable service.[3] Nevertheless, EAS also has been used to provide critical local emergency information. EAS messages issued at the state or local level regarding emergency weather conditions constitute approximately 80 percent of all EAS alerts.[4]

After the events of September 11, 2001, several parties, including citizens, public/private groups, and other federal, state and local representatives, raised issues about the efficacy of EAS as an effective public warning mechanism.[5] The Commission thus began this proceeding to improve EAS.[6] In the *First Report and Order*, the Commission advanced its public safety mission by adopting rules that expanded the category of services that must provide EAS alerts and warnings to include digital television ("DTV"); digital audio broadcasting ("DAB"); digital cable; Digital Broadcast Satellite ("DBS"); and Satellite Digital Audio Radio Service ("SDARS").[7] The amended rules were designed to maximize the number of consumers that have access to critical public safety information.

The Commission's decision to expand EAS to new digital services was based on its finding that the current system works and that the digital services could provide EAS to the public with little downside.[8] Specifically, the Commission found that:

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3 *Id.* at ¶¶ 4, 6. The President of the United States has sole responsibility for determining when the system will be activated at the national level. The President has delegated this authority to the director of FEMA, which is now responsible for national-level activation of EAS. *Id.* at ¶ 6. Although Presidential messages constitute the only mandatory alerts that must be delivered via the EAS system, no Presidential alert has ever been made. *Review of the Emergency Alert System*, EB Docket No. 04-296, *Notice of Proposed Rulemaking*, 19 F.C.C.R. 15775, 15783 (2004) ("*Notice of Proposed Rulemaking*").

4 *First Report and Order* at ¶ 7.

5 *Notice of Proposed Rulemaking*, 19 F.C.C.R. at 15776.

6 *See generally id.* at 15776, 15782.

7 *First Report and Order* at ¶ 17.

8 *Id.* (noting "that the current EAS is overall the most effective way to provide such a basic level of warning as we transition to more sophisticated systems").

> [I]n most cases, the digital platforms affected by this Order either have in place the ability to distribute EAS warnings, or can do so in a reasonable amount of time and with reasonable cost. Accordingly, based on our examination of the record in this proceeding, we do not believe that requiring these digital services to install and use EAS equipment will impose undue regulatory or financial burdens.[9]

Cingular agrees with the Commission's approach of expanding the availability of EAS warnings via services that can provide the alerts without substantial burdens. As the Commission has noted, this approach creates tremendous benefits:

> Digital media have potential to deliver a wholly new level of alert and warning capabilities, far beyond the capabilities of today's EAS. Text crawls and audio feeds can be replaced with full audio and video alert, information such as evacuation routes can be embedded in messages to the public, messages can be targeted to specialized audiences such as first responders and health care providers, and coordinated warnings can be sent over multiple platforms simultaneously.[10]

As discussed below, however, there are substantial burdens and problems associated with the delivery of EAS warnings by CMRS licensees.

II. NUMEROUS TECHNICAL AND POLICY ISSUES MUST BE RESOLVED BEFORE ADOPTION OF A CMRS EAS REQUIREMENT

The Commission has asked for comment on whether it should "require wireless carriers to provide alerts and warnings[,]" noting that "commenters in the underlying proceeding have advocated a point-to-multi-point, or cell broadcast approach to CMRS alerts and warnings."[11] As discussed below, there are numerous technical and policy issues that must be resolved before

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9 *Id.* at ¶ 18.

10 *Id.* at ¶ 64.

11 *Id.* at ¶ 69. The Commission had similarly sought comment on this issue in the *Notice of Proposed Rulemaking*, asking whether certain "cellular capabilities, including the cell broadcast feature of digital cellular networks …" could be used "to form a comprehensive national public warning system capable of reaching virtually everyone all of the time." *Notice of Proposed Rulemaking*, 19 F.C.C.R. at 15787.

expanding EAS to include wireless (*i.e.*, CMRS) carriers. The wireless industry already has begun examining these issues to determine how it might effectively be able to provide some emergency alert capability to its customers. Adoption of inflexible regulatory mandates at this time may impede this process. Rather than adopt specific EAS requirements for CMRS carriers, the Commission should open a dialogue with the wireless industry and appropriate government bodies regarding possible EAS capabilities.

A. The Commission Should Partner with Industry to Evaluate the Viability of CMRS EAS

Cingular supports further examination of CMRS EAS, given the importance of providing emergency information to all consumers. Cingular recommends utilizing the wireless priority access service ("WPS") model whereby the Commission works with the industry in a public-private partnership to explore technical solutions and to establish regulatory requirements only if necessary. WPS has been deployed successfully on a nationwide basis because the industry was given the flexibility to develop technical solutions that make sense.[12] There, the Commission declined to mandate technical standards for WPS because the standards were still being developed by industry groups.[13] Although the Commission did adopt rules in the WPS proceeding establishing uniform operating protocols proposed by the National Communications System, it recognized that "all details related to the technology and technical standards have not been resolved."[14]

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12 *See* Comments of CTIA – The Wireless Association®, EB Docket No. 04-296, at 4 (filed Oct. 29, 2004).

13 *Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010; Establishment of Rules and Requirements for Priority Access Service*, WT Docket No. 96-86, *Second Report and Order*, 15 F.C.C.R. 16720, 16733 n.99 (2000) ("*WPS Second Report and Order*").

14 *Id.* at 16727.

As in the WPS example, the technological issues regarding CMRS EAS have not yet been resolved. The industry, however, is working to reach a solution.[15] Cingular has partnered with 3G Americas to evaluate the viability of a GSM solution. Additionally, Cingular and three other major carriers are participating in a pilot program with FEMA, whereby a message can originate with FEMA and be transmitted directly – without being edited, touched or handled by the provider – to wireless subscribers.[16]

Moreover, counties and municipalities already are offering emergency alert services, whereby those that sign up for the service receive SMS or voice alerts about emergencies in those localities.[17]

Based on the success of WPS, the Commission should find in favor of letting the industry and the market attempt to resolve this issue. Providing this flexibility to carriers will ensure that the most efficient, technologically feasible and cost effective service is provided to customers.

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[15] Consistent with the industry approach, two bills introduced in Congress call for further research regarding the viability of wireless EAS. In particular, one bill even would provide for private sector funding for such research. *See* Warning, Alert, and Response Network Act, S. 1753, 109th Cong. § 106 (2005) (reported on in the Committee on Commerce, Science and Transportation and placed on the Senate Legislative Calendar under General Orders); Early Warning and Rapid Notification Act of 2005, H.R. 396, 109th Cong. § 6(b)(3) (2005) (referred to the House Committee on International Relations).

[16] Federal Emergency Management Agency, *Department Of Homeland Security Launches Digital Emergency Alert System Pilot For The National Capital Region, Alert and Warning Systems to Be Enhanced by High-Speed Wireless Digital Broadcasts*, Oct. 1, 2004, *available at* http://www.fema.gov/news/newsrelease.fema?id=14924.

[17] The District of Columbia government, for example, has implemented both emergency text and voice alert systems. The text notification system allows citizens who enroll to receive emergency text messages on any text capable device, including mobile phones, computer e-mail, pagers and faxes. The telephone voice messaging system allows emergency managers to select very precise geographic areas and call the phones in that area to deliver emergency instructions. Citizens are automatically enrolled and are not required to sign up for this service. *See* Washington DC, Emergency Information Center, Alert DC, *available at* http://eic.rrc.dc.gov/eic/cwp/view.asp?a=3&Q=563034&eicNav_GID=1589. Arlington County also has an SMS emergency alert notification system. *See* Arlington Virginia, Arlington Alert System, *available at* http://www.arlingtonalert.com/index.php?CCheck=1.

B. Wireless Carriers Face Significant Technical Problems in Providing EAS

Until further research is conducted, it is unknown whether mandatory EAS participation by CMRS operators will actually improve public safety. CMRS EAS messages would reduce capacity on wireless networks, thereby inhibiting the ability of these networks to carry non-EAS emergency traffic during a crisis. To improve the ability of first responders to communicate during crises when networks are extremely congested, many carriers provide WPS.[18] WPS does not improve access by the general public, however, and it would be unfortunate if the general public's ability to use wireless networks was degraded further during emergency situations due to CMRS EAS alerts – alerts that generally would be available from multiple other sources (*i.e.*, television and radio).

The two major options discussed for the deployment of EAS over wireless service – point-to-point delivery systems, such as the Short Message Service ("SMS"); and point-to-multipoint technologies, such as cell broadcast – create capacity issues. As discussed below, these possible EAS delivery systems also pose additional problems that are unique for wireless carriers.[19]

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[18] In fact, priority access use could prevent delivery of emergency alert messages altogether or increase message latency, making a CMRS EAS regime virtually useless.

[19] Cingular, in conjunction with 3G Americas and other entities, has been exploring the possible technical solutions for deployment of an EAS regime over CMRS. Specifically, 3G Americas has analyzed several technical solutions in conjunction with "use cases." The "use cases" are broken up by the expected geographic size of deployment of an emergency alert and other criteria. 3G Americas believes that it could take at least 10 minutes for an emergency alert to be disseminated to all customers in a very small geographic area, but such an alert on a national level would take more than an hour, by which time it could be too late for such emergency notification.

1. Mandatory Use of SMS to Provide Emergency Alerts Could Cause More Harm than Good

Use of SMS messages or another point-to-point delivery mechanism to deliver emergency alerts to wireless customers poses several problems. First, SMS creates network congestion because (i) it would require separate point-to-point communications to send an alert to each user[20] and (ii) would force wireless networks to query a database to determine the presence of each user on the network before routing a SMS message to individual handsets. All of these tasks create the biggest hurdle for using SMS for emergency alert purposes – network congestion. This congestion will pose problems for both first responders and the general public.

Capacity on an individual carrier's network depends on message size and radio network configuration. The impact of distributing SMS EAS alerts to thousands (or even millions) of users must be analyzed before any new regulatory obligations are imposed since some networks may have limited additional capacity. Although wireless carriers have begun examining this issue, additional time is necessary to effectively determine the feasibility of SMS or other point-to-point technologies for providing emergency alerts.[21]

In addition to capacity concerns, numerous other problems and issues must be addressed prior to mandating the delivery of CMRS EAS via SMS:

- Customers roaming on networks where the emergency is occurring may not receive the message because the SMS originates from the home system (not the visited system), which may be outside the emergency notification area.

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[20] SMS goes over a common control channel, which impacts the voice capacity on the system.

[21] There are other point-to-point communications technologies that 3G Americas has examined as a solution for EAS (*i.e.*, Multimedia Messaging Service and Enhanced Short Message Service), but those technologies suffer from the same network congestion difficulties as SMS.

- False emergency alert messages could be sent via SMS since anyone can send such messages.
- There is no geographic specificity associated with SMS.
- There is no method to give priority to SMS messages.
- There is no indication on the handset that the received SMS is an emergency alert or a "routine" SMS message, thus there is no indication to the user of the urgency of the message.
- It is not possible to specify a preferred language for SMS.
- Messages are composed of a limited number of text characters only (which may limit their usefulness, both to the general public and to the visually impaired).

Until the numerous issues surrounding use of SMS technology are evaluated and any issues resolved, the Commission should not require wireless carriers to deliver emergency alerts using SMS or other point-to-point technologies. The public interest would be best served by delaying adoption of any such requirements until the wireless industry concludes its analysis regarding the viability of EAS alerts via SMS technology.

2. Cell Broadcast Service is Not the Panacea for CMRS EAS

Some parties have argued that cell broadcast can easily deliver CMRS EAS alerts without the problems associated with SMS.[22] This is not true. Although cell broadcast technology (because it uses point-to-multipoint communications) has certain advantages over SMS, it also poses unique challenges.

[22] *See, e.g.*, Comments of LogicaCMG PLC, EB Docket No. 04-296, at 7-10 (filed Oct. 29, 2004). *But see* Joint Opposition to Petitions to Deny and Comments of AT&T Wireless Services, Inc. and Cingular Wireless Corporation, WT Docket No. 04-70, at 51-53 and Attachment C (filed May 13, 2004) (noting in text of the Joint Opposition and attached Declaration of Kristen S. Rinne the problems posed by requiring carriers to use the cell broadcast feature for emergency alerts).

One key problem for cell broadcast is the ability of existing handsets to receive alerts sent via cell broadcast channels. Current GSM handset certification procedures only contain limited tests of the cell broadcast feature, so the level of support for cell broadcast in deployed GSM devices is unknown. More importantly, not all handsets have cell broadcast capability.

Even if a consumer did have a handset with cell broadcast capability, there still would be barriers to receiving EAS alerts via cell broadcast channels:

- Because cell broadcast technology has not been utilized by wireless carriers, it is likely that handsets have the cell broadcast functionality turned off. Additionally, some handsets do not have the capability or menu structure to allow the subscribers to turn on the cell broadcast feature.

- Cell broadcast messages will not be received by handsets that are in use. Thus, customers engaged in a call at the time of a cell broadcast message will not receive the message.[23]

- Roamers would be unable to receive cell broadcast alerts. Because there currently are no message identifiers or defined categories relating to emergency notifications via cell broadcast, there is no standardized method to identify an emergency notification. Thus, roamers in an alert area would not necessarily receive emergency messages because carriers may assign message categories differently. An industry-wide standardization effort would be required to enhance the current cell broadcast standard to effectively support a service to deliver emergency alerts.[24]

- There is no indication on the handset that the cell broadcast message is an emergency alert or a "routine" message, thus, there is no indication to the user of the urgency of the message.

- It is not possible to specify a preferred language for a cell broadcast message.

- Messages are composed of a limited number of text characters only (which may limit their usefulness, both to the general public as well as to the visually impaired).

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[23] Cell broadcast messages may be repeated at given intervals. As such, customers may receive the message when they complete their call.

[24] GSM already has some basic standards for cell broadcast. Cingular understands that the CDMA and iDEN platforms have not established any standards for cell broadcast.

In addition to the handset issues, there are network issues with using cell broadcast. Many carriers have assigned the cell broadcast channels for signaling traffic support: call setup; authentication; network registration; and SMS service.[25] Reassigning these channels for cell broadcast would reduce capacity by 12.5% to 25% for normal voice and text services.[26] Therefore, as with SMS, the use of cell broadcast for EAS raises serious capacity issues. As discussed *supra*, capacity issues raise serious public interest concerns, including impeding the general public from accessing the wireless network during times of emergency.

Given these problems, the Commission should create a public-private partnership to resolve CMRS EAS issues prior to adopting rigid mandates.[27]

C. Numerous Policy Issues Must be Resolved Prior to Mandating CMRS EAS

Before the Commission imposes an emergency alert mandate on wireless services, there are numerous policy questions that must be addressed, including:

(1) Who initiates the alerts (*i.e.*, local, state or federal government officials) and how alert message are received, *i.e.*, would an interface be required for every local, state, and federal agency that may initiate an alert.

(2) What are the triggering events for an alert?

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[25] 3G Americas estimates that since no known operator in North America has deployed cell broadcast service, it could take several years to deploy this capability in North America.

[26] The Commission must consider that if it were to mandate use of the cell broadcast channel, it would be requiring wireless carriers to set aside valuable capacity that is currently needed to accommodate customer traffic, for a use that has not been tested for its effectiveness to provide emergency alerts to wireless customers. The technology simply has not been explored and its usefulness for emergency purposes is unknown. Moreover, to the extent it may be necessary to dedicate capacity exclusively to cell broadcast and thereby displace the use of that capacity for other purposes, even when it is being actively used for emergency alerts, a cell broadcast requirement could adversely affect capacity, coverage, and service quality, including E-911 capabilities.

[27] Other EAS technologies considered for wireless providers, including incorporation of a NOAA or FM radio in a handset, pose serious issues regarding battery consumption and antenna configuration. Therefore, considerable time also would be needed to widely deploy these technologies in handsets.

(3) Should transmission of all alerts be mandatory, and should there be a priority or preemption of alert messages?

(4) What the alerts should say, how they should say it (*i.e.*, text, voice or data), and whether alerts should be transmitted in multiple languages.

(5) What the message size should be.

(6) What the geographic scope of the alerts should be.[28]

(7) What the expectations of service are from the government/regulatory agency perspective and the end user perspective, including the expectations for changes to mobile devices (*i.e.*, what the subscriber may have to do to receive an alert message).

(8) What the performance criteria for the emergency alert service (*i.e.*, expected time for delivery) should be.

These issues have not been fully addressed by the wireless industry or the governmental bodies that would be generating the content of EAS messages. Therefore, the Commission should form a public-private partnership with the wireless industry and key governmental stakeholders to further explore EAS possibilities for CMRS networks.

Given the numerous, significant questions regarding the viability of EAS warnings over CMRS networks, the Commission should not subject CMRS providers to the current regulatory regime, which was designed for broadcasters and cable providers, who transmit on a point-to-multipoint basis, without considering the unique issues that face wireless carriers.[29]

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[28] To make the cell broadcast functionality geographically specific, wireless carriers will have to undertake lengthy and costly upfront preparations to map cell coverage area to defined emergency alert zones. This will be both a lengthy and costly process.

[29] FCC regulations establish parameters for EAS encoders, decoders, and the general acceptability of equipment. These parameters may be incompatible with CMRS technologies and the capabilities of the equipment used in the provision of CMRS service. Rules would have to be modified to take into account the technical differences between CMRS and broadcast/cable services.

1. Wireless Carrier Liability Should be Limited

The technological limitations of wireless service guarantee that there will be times when wireless users will not receive a CMRS EAS alert, will receive the message after the fact or will receive the alert messages out of sequence. There is simply no way that wireless carriers can guarantee that all of their subscribers and roamers will receive every alert in a timely manner.[30] For the same reasons the 911 Act gave CMRS carriers limited liability in the context of E911 service, the Commission must provide liability protections to wireless carriers providing EAS.[31]

2. A Cost Recovery Mechanism Should be Adopted for CMRS EAS

There are significant economic considerations for the Commission to consider regarding implementation of a CMRS EAS regime. Regardless of the delivery mechanism (SMS or cell broadcast), CMRS EAS obligations will impose significant costs on carriers, particularly with respect to developing and maintaining the necessary network capacity to use these alert systems, including consideration for the replacement of legacy deployed handsets. If the Commission chooses to mandate such a requirement or if carriers voluntarily implement CMRS EAS capabilities, there must be a cost recovery mechanism. Carriers should be permitted to recover

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[30] For example, users may not receive an alert because of the handset settings or the location of the handset when the alert is sent, or because the handset is powered off.

[31] In the 911 Act, Congress gave wireless carriers providing 911 service liability protection equal to that available to wireline carriers for 911 calls. 47 U.S.C. § 615a ("A wireless carrier, and its officers, directors, employees, vendors, and agents, shall have immunity or other protection from liability in a State of a scope and extent that is not less than the scope and extent of immunity or other protection from liability that any local exchange company, and its officers, directors, employees, vendors, or agents, have under Federal and State law … applicable in such State, including in connection with an act or omission involving the release to a PSAP, emergency medical service provider or emergency dispatch provider, public safety, fire service or law enforcement official, or hospital emergency or trauma care facility of subscriber information related to emergency calls or emergency services."). As such, wireless carriers, like wireline carriers, are insulated from liability except for gross negligence.

the costs associated with both implementation and ongoing system management. This approach would be consistent with the WPS model.[32]

[32] *See, e.g.*, Part 64, App. B (requiring WPS service users to pay service providers as billed for priority access service). Additionally, since participation in WPS is voluntary, the National Communications System ("NCS") funds the technical development and implementation of priority features in the wireless carrier networks to encourage participation. Although the FCC maintains oversight responsibilities for the WPS Program, the NCS manages the day-to-day administration on behalf of the Executive Office of the President. *See* National Communications System, Wireless Priority Service, *available at* <http://wps.ncs.gov/>.

CONCLUSION

For the foregoing reasons, Cingular urges the Commission to continue to work with the wireless industry to study deployment of CMRS EAS, but strongly recommends that the Commission avoid imposing any mandates at this time.

Respectfully submitted,

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